**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 6**
**HOUSTON BRANCH**
**10625 FALLSTONE RD.**
**HOUSTON, TEXAS 77099**

**November 19, 2013**

**MEMORANDUM**

**SUBJECT:** Contract Laboratory Program Data Review

**FROM:** Raymond Flores, Alternate ESAT Regional Project Officer
Environmental Services Branch (6MD-HL)

**TO:** Brian Mueller, Superfund Project Manager (6SF-RL)

**Site:** **FALCON REFINERY**

**Case#:** **43795**

**SDG#:** **MF2A35**

The EPA Region 6 Environmental Services Branch ESAT data review team has completed a review of the submitted Contract Laboratory Program (CLP) data package for the referenced site. The samples analyzed and reviewed are detailed in the attached Regional data review report.

The data package is acceptable for regional use. Problems, if any, are listed in the report narrative. If you have any questions regarding the data review report, please contact me at (281) 983-2139.

9598546

# ENVIRONMENTAL SERVICES ASSISTANCE TEAM

ESAT Region 6
10625 Fallstone Road
Houston, TX 77099

**Alion Science and Technology**

**MEMORANDUM**

DATE: November 18, 2013

TO: Marvelyn Humphrey, ESAT PO, Region 6 EPA

FROM: Linda Hoffman, Data Reviewer, ESAT

THRU: Dominic G. Jarecki, ESAT Program Manager, ESAT DGJ

SUBJECT: CLP Data Review

| | |
|---|---|
| Contract No.: | EP-W-06-030 |
| TO No.: | 030 |
| Task/Sub-Task: | 2-12 |
| ESAT Doc. No.: | B030-212-0180 |
| TDF No.: | 6-12-024C |
| ESAT File No.: | I-0645 |

Attached is the data review summary for Case # 43795
SDG # MF2A35
Site Falcon Refinery

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 6**
**HOUSTON BRANCH**
**10625 FALLSTONE ROAD**
**HOUSTON, TEXAS 77099**

# INORGANIC REGIONAL DATA ASSESSMENT

| | | | |
|---|---|---|---|
| CASE NO. | 43795 | SITE | Falcon Refinery |
| LABORATORY | MITKEM | NO. OF SAMPLES | 3 |
| CONTRACT# | EP-W-09-039 | MATRIX | Soil |
| SDG# | MF2A35 | REVIEWER (IF NOT ESB) | ESAT |
| SOW# | ISM01.3 | REVIEWER'S NAME | Linda Hoffman |
| SF# | 303DD2MC | COMPLETION DATE | November 18, 2013 |

| SAMPLE NO. | | | | | |
|---|---|---|---|---|---|
| | MF2A35 | | | | |
| | MF2A36 | | | | |
| | MF2A38 | | | | |
| | | | | | |

## DATA ASSESSMENT SUMMARY

| | ICP | HG |
|---|---|---|
| 1. HOLDING TIMES | O | O |
| 2. CALIBRATIONS | O | O |
| 3. BLANKS | O | O |
| 4. MATRIX SPIKES | M | O |
| 5. DUPLICATE ANALYSIS | M | M |
| 6. ICP QC | M | |
| 7. LCS | O | |
| 8. SAMPLE VERIFICATION | O | O |
| 9. OTHER QC | N/A | N/A |
| 10. OVERALL ASSESSMENT | M | M |

O = Data had no problems.
M = Data qualified due to major or minor problems.
Z = Data unacceptable.
NA = Not applicable.

**ACTION ITEMS:**

**AREAS OF CONCERN:** The antimony matrix spike recovery was below the QC limit, and the arsenic matrix spike recovery was above the QC limit. Laboratory duplicate differences for calcium, manganese, and mercury exceeded the expanded QC limit for soils. Serial dilution differences for arsenic, chromium, magnesium, and nickel exceeded the expanded QC limit for soils.

**COMMENTS/CLARIFICATIONS**
**REGION 6 CLP QA REVIEW**

**CASE** 43795 **SDG** MF2A35 **SITE** Falcon Refinery **LAB** MITKEM

**COMMENTS:** This SDG consisted of three soil samples for total metals (by ICP-MS and ICP-AES) and mercury analyses following SOW ISM01.3. A sample was not designated for laboratory QC analyses, so after contacting SMO, the laboratory performed QC analyses on sample MF2A35.

The SOW requires that the soil sample results be adjusted for moisture content, which raised the adjusted QLs above the CRQLs specified in the SOW for some samples. The adjusted CRQLs were reported by the laboratory and are referred to as SQLs in this report.

All samples for ICP-MS were analyzed at 5X dilution only. The laboratory managed to meet the CRQL requirement by lowering the concentration for the low initial calibration standard to 1/5 the CRQLs specified in the SOW. Additionally, the laboratory diluted (up to 5X) and reanalyzed samples MF2A35 and MF2A38 because of high calcium and/or mercury concentrations.

S3VEM Review was performed for this package as requested by the Region. For this review option, laboratory contractual compliance and technical usability of the sample results are primarily determined by the EDM CCS Defect Report and NFG Data Review Results Report, respectively. The reviewer performs supplemental hardcopy forms checking and applies Region 6 guidelines, where necessary, to account for known limitations of the electronic review process. Therefore, the reviewer's final assessments may deviate from those found in the EDM reports. The NFG Data Review Results Report for the SDG is attached to this report as an addendum for additional information.

**OVERALL ASSESSMENT:** Some results were qualified for all samples because of problems with matrix spike recoveries, laboratory duplicate differences, and serial dilution differences. ESAT's final data qualifiers in the DST indicate the technical usability of all reported sample results. An Evidence Audit was conducted for the CSF, and the audit results were reported on the Evidence Inventory Checklist. The DST included in this report is the final version.

## INORGANIC ACRONYMS

| | |
|---|---|
| **CCB** | Continuing Calibration Blank |
| **CCS** | Contract Compliance Screening |
| **CCV** | Continuing Calibration Verification |
| **CN** | Cyanide |
| **CRQL** | Contract Required Quantitation Limit |
| **CSF** | Complete SDG File |
| **DST** | Data Summary Table |
| **EDM** | EXES Data Manager |
| **HG** | Mercury |
| **ICB** | Initial Calibration Blank |
| **ICP** | Inductively Coupled Plasma |
| **ICP-AES** | Inductively Coupled Plasma-Atomic Emission Spectroscopy |
| **ICP-MS** | Inductively Coupled Plasma-Mass Spectrometry |
| **ICS** | Interference Check Sample |
| **ICV** | Initial Calibration Verification |
| **IS** | Internal Standard |
| **LCS** | Laboratory Control Sample |
| **MDL** | Method Detection Limit |
| **NFG** | National Functional Guidelines |
| **PE** | Performance Evaluation |
| **%D** | Percent Difference |
| **%R** | Percent Recovery |
| **%RI** | Percent Relative Intensity |
| **%RSD** | Percent Relative Standard Deviation |
| **QA** | Quality Assurance |
| **QC** | Quality Control |
| **QL** | Quantitation Limit |
| **RPD** | Relative Percent Difference |
| **RSCC** | Regional Sample Control Center |
| **S3VEM** | Stage 3 Validation Electronic and Manual (previously called Modified CADRE Review) |
| **S4VEM** | Stage 4 Validation Electronic and Manual (previously called Standard Review) |
| **SDG** | Sample Delivery Group |
| **SMO** | Sample Management Office |
| **SOW** | Statement of Work |
| **SQL** | Sample Quantitation Limit |
| **TAL** | Target Analyte List |

## HEADER DEFINITIONS FOR INORGANIC EXCEL DST

CASE: Case Number
SDG: SDG Number
EPASAMP: EPA Sample Number
LABID: Laboratory File/Sample ID
MATRIX: Sample Matrix
QCCOD: Sample QC Code
SMPQUAL: Sample Qualifier
ANDATE: Sample Analysis Date
ANTIME: Sample Analysis Time
CASNUM: Compound CAS Number
ANALYTE: Compound Name
CONC: Compound Concentration
VALDQAL: Region 6 Inorganic Data Validation Qualifier (see Inorganic Data Qualifier Definitions on the next page)
UNITS: Concentration Units
ADJCRQL: Adjusted Contract Required Quantitation Limit Value
SMPDATE: Sampling Date
PRPDATE: Sample Preparation Date
LRDATE: Laboratory Receipt Date
LEVEL: Sample Level
PERSOLD: Sample Percent Solids
SMPWTVL: Sample Weight (Soil Samples)/Initial Sample Volume (Water Samples)
FINLVOL: Final Sample Volume
METHOD: Method of Analysis
STATLOC: Station Location

**Disclaimer:** **ESAT verified the accuracy of the information reported in the Excel DST only for the following data fields: CASE, SDG, EPASAMP, MATRIX, ANALYTE, CONC, UNITS, ADJCRQL, VALDQAL, and PERSOLD. The data qualifiers in the VALDQAL column indicate the technical usability of the reported results.**

## INORGANIC DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the ESAT-Region 6 qualifiers assigned to results in the Data Summary Table.

**U** Not detected at reported quantitation limit.

**L** Reported concentration is between the MDL and the CRQL.

**J** Result is estimated because of outlying quality control parameters such as matrix spike, serial dilution, etc., or the result is below the CRQL.

**R** Result is unusable.

**F** A possibility of a false negative exists.

**UC** Reported concentration should be used as a raised quantitation limit because of blank effects and/or laboratory or field contamination.

**+** High biased. Actual concentration may be lower than the concentration reported.

**-** Low biased. Actual concentration may be higher than the concentration reported.

**W** The result should be used with caution. The result was reported on a dry weight basis although the sample did not conform to the EPA Office of Water definition of a soil sample because of its high water content (>70% moisture).

| CASE | SDG | EPASAMP | LABID | MATRIX | QCCODE | ANDATE | ANTIME | CASNUM | ANALYTE | CONC | VALDQAL | UNITS | ADJCRQL | SMPDATE | PRPDATE | LRDATE | LEVEL | PERSOLD | SMPWTVL | FINVOL | METHOD | STATLOC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7429905 | Aluminum | 1320 | | mg/kg | 18.2 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440360 | Antimony | 0.89 | UJ | mg/kg | 0.89 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440382 | Arsenic | 0.84 | J | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440393 | Barium | 25.4 | | mg/kg | 4.4 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440417 | Beryllium | 0.44 | U | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440439 | Cadmium | 0.44 | U | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/30/2013 | 12:05:19 | 7440702 | Calcium | 19700 | J | mg/kg | 909 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440473 | Chromium | 1.1 | J | mg/kg | 0.89 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440484 | Cobalt | 0.47 | | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440508 | Copper | 1.0 | | mg/kg | 0.89 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7439896 | Iron | 1220 | | mg/kg | 9.1 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7439921 | Lead | 11.7 | | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7439954 | Magnesium | 449 | LJ | mg/kg | 455 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7439965 | Manganese | 30.3 | J | mg/kg | 1.4 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/03/2013 | 14:30:52 | 7439976 | Mercury | 2.3 | J | mg/kg | 0.23 | 09/10/2013 | 10/01/2013 | 09/14/2013 | Low | 88.0 | 0.5 | 100 | CV | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440020 | Nickel | 0.76 | J | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7440097 | Potassium | 354 | LJ | mg/kg | 455 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7782492 | Selenium | 2.2 | U | mg/kg | 2.2 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440224 | Silver | 0.44 | U | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7440235 | Sodium | 651 | | mg/kg | 455 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440280 | Thallium | 0.44 | U | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440622 | Vanadium | 1.6 | LJ | mg/kg | 2.2 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440666 | Zinc | 79.1 | | mg/kg | 0.89 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7429905 | Aluminum | 1870 | | mg/kg | 20.8 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440360 | Antimony | 1.0 | UJ | mg/kg | 1.0 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440382 | Arsenic | 0.83 | J | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440393 | Barium | 6.3 | | mg/kg | 5.0 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440417 | Beryllium | 0.50 | U | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440439 | Cadmium | 0.50 | U | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7440702 | Calcium | 5010 | J | mg/kg | 519 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440473 | Chromium | 1.6 | J | mg/kg | 1.0 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440484 | Cobalt | 0.56 | | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440508 | Copper | 0.59 | LJ | mg/kg | 1.0 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7439896 | Iron | 1750 | | mg/kg | 10.4 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7439921 | Lead | 1.6 | | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7439954 | Magnesium | 1190 | J | mg/kg | 519 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7439965 | Manganese | 56.8 | J | mg/kg | 1.6 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/03/2013 | 13:01:21 | 7439976 | Mercury | 0.012 | LJ | mg/kg | 0.10 | 09/10/2013 | 10/01/2013 | 09/14/2013 | Low | 84.5 | 0.59 | 100 | CV | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440020 | Nickel | 1.2 | J | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7440097 | Potassium | 577 | | mg/kg | 519 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7782492 | Selenium | 2.5 | U | mg/kg | 2.5 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440224 | Silver | 0.50 | U | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7440235 | Sodium | 321 | LJ | mg/kg | 519 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440280 | Thallium | 0.50 | U | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440622 | Vanadium | 2.4 | LJ | mg/kg | 2.5 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440666 | Zinc | 4.2 | | mg/kg | 1.0 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7429905 | Aluminum | 1140 | | mg/kg | 21.3 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440360 | Antimony | 0.83 | UJ | mg/kg | 0.83 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440382 | Arsenic | 0.98 | J | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440393 | Barium | 68.4 | | mg/kg | 4.2 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440417 | Beryllium | 0.42 | U | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440439 | Cadmium | 0.42 | U | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/30/2013 | 12:15:52 | 7440702 | Calcium | 146000 | J | mg/kg | 2670 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440473 | Chromium | 1.3 | J | mg/kg | 0.83 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440484 | Cobalt | 0.58 | | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440508 | Copper | 2.6 | | mg/kg | 0.83 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7439896 | Iron | 1340 | | mg/kg | 10.7 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7439921 | Lead | 6.5 | | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7439954 | Magnesium | 1210 | J | mg/kg | 533 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7439965 | Manganese | 120 | J | mg/kg | 1.6 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/03/2013 | 13:02:53 | 7439976 | Mercury | 0.074 | LJ | mg/kg | 0.10 | 09/10/2013 | 10/01/2013 | 09/14/2013 | Low | 90.1 | 0.55 | 100 | CV | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440020 | Nickel | 1.1 | J | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7440097 | Potassium | 302 | LJ | mg/kg | 533 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7782492 | Selenium | 2.1 | U | mg/kg | 2.1 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440224 | Silver | 0.42 | U | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7440235 | Sodium | 1010 | | mg/kg | 533 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440280 | Thallium | 0.42 | U | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440622 | Vanadium | 1.7 | LJ | mg/kg | 2.1 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440666 | Zinc | 21.7 | | mg/kg | 0.83 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |

# INORGANIC/ORGANIC COMPLETE SDG FILE (CSF) INVENTORY CHECKLIST

Case No. 43795 SDG No. MF2A35 SDG Nos. To Follow Mod. Ref. No. Date Rec 10/22/13

EPA Lab ID: MITKEM

Lab location: N. Kingstown, RI

Region: 6 Audit No.: 43795/MF2A35

Resubmitted CSF? Yes ____ No X

Box No(s): 1

COMMENTS:

Item Description

Over for additional comments.

| ORIGINALS | YES | NO | N/A |
|---|---|---|---|
| **CUSTODY SEALS** | | | |
| 1. Present on package? | X | | |
| 2. Intact upon receipt? | X | | |
| **FORM DC-2** | | | |
| 3. Numbering scheme accurate? | X | | |
| 4. Are enclosed documents listed? | X | | |
| 5. Are listed documents enclosed? | X | | |
| **FORM DC-1** | | | |
| 6. Present? | X | | |
| 7. Complete? | X | | |
| 8. Accurate? | X | | |
| **TRAFFIC REPORT/CHAIN-OF-CUSTODY RECORD(s)** | | | |
| 9. Signed? | X | | |
| 10. Dated? | X | | |
| **AIRBILLS/AIRBILL STICKER** | | | |
| 11. Present? | X | | |
| 12. Signed? | X | | |
| 13. Dated? | X | | |
| **SAMPLE TAGS** | | | |
| 14. Does DC-1 list tags as being included? | X | | |
| 15. Present? | X | | |
| **OTHER DOCUMENTS** | | | |
| 16. Complete? | X | | |
| 17. Legible? | X | | |
| 18. Original? | | X | |
| 18a. If "NO", does the copy indicate where original documents are located? | X | | |

Audited Linda Hoffman/ESAT Data Reviewer Date 11/13/13

Audited Date

Signature Printed Name/Title

DC-2_

USEPA CLP Inorganics COC (REGION COPY)

DateShipped: 9/13/2013

CarrierName: FedEx

AirbillNo: 7968 3717 3410

# CHAIN OF CUSTODY RECORD

Falcon Refinery Superfund Site/TX

Case #: 43795

No: 6-091213-124747-0054

Lab: Spectrum Analytical, Inc. DBA: MITKEM Laboratories

Lab Contact: Dawne Smart

Lab Phone: 401-732-3400

| Inorganic Sample # | Matrix/Sampler | Coll. Method | Analysis/Turnaround | Tag/Preservative/Bottles | Station Location | Collected | Organic Sample # | Sample Type |
|---|---|---|---|---|---|---|---|---|
| MF2A17 | Soil/ Trent England | Grab | TM+HG(21) | 6-451089 (Ice to 4C) (1) | SO3-01-0.0-0.5 | 09/09/2013 13:15 | | Field Sample |
| MF2A26 | Soil/ Trent England | Grab | TM+HG(21) | 6-451134 (Ice to 4C) (1) | SO3-03-2.0-5.0 | 09/09/2013 15:45 | | Field Sample |
| MF2A35 | Soil/ Trent England | Grab | TM+HG(21) | 6-451179 (Ice to 4C) (1) | SO4-02-0.5-2.0 | 09/10/2013 10:55 | | Field Sample |
| MF2A36 | Soil/ Trent England | Grab | TM+HG(21) | 6-451184 (Ice to 4C) (1) | SO4-02-2.0-3.0 | 09/10/2013 11:05 | | Field Sample |
| MF2A38 | Soil/ Trent England | Grab | TM+HG(21) | 6-451194 (Ice to 4C) (1) | SO4-03-0.5-2.0 | 09/10/2013 11:30 | | Field Sample |
| MF2B21 | Sediment/ Alex Spiller | Grab | TM+HG(21) | 6-451591 (Ice to 4C) (1) | SDB-IC02-0.0-0.5 | 09/09/2013 14:40 | | Field Sample |
| MF2B24 | Sediment/ Alex Spiller | Grab | TM+HG(21) | 6-451600 (Ice to 4C) (1) | SDB-IC02-0.0-0.5 Dup | 09/09/2013 14:40 | | Field Duplicate |
| MF2B30 | Sediment/ Alex Spiller | Grab | TM+HG(21) | 6-451618 (Ice to 4C) (1) | SDB-IC04-0.0-0.5 | 09/10/2013 09:50 | | Field Sample |
| MF2B42 | Sediment/ Alex Spiller | Grab | TM+HG(21) | 6-451656 (Ice to 4C) (1) | SDB-IC08-0.0-0.5 | 09/10/2013 16:20 | | Field Sample |
| MF2B45 | Sediment/ Alex Spiller | Grab | TM+HG(21) | 6-451665 (Ice to 4C) (1) | SDB-IC09-0.0-0.5 | 09/10/2013 15:40 | | Field Sample |
| | | | | | | | | |

Page 7 of 9

Special Instructions: ICP-AES for: Aluminum, Calcium, Iron, Magnesium, Manganese, Potasium, Sodium.
ICP-MS for: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickle, Selenium, Silver, Thallium, Vanadium, Zinc

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: TM+HG=TM+Hg by ISM01.3, ICP-AES+MS

| Items/Reason | Relinquished by | Date | Received by | Date | Time | Items/Reason | Relinquished By | Date | Received by | Date | Time |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | [signature] | 9-13-13 | [signature] | 09-13-13 | 0800 | | | | | | |
| | [signature] | 9-13-13 | [signature] | 09-13-13 | 0800 | | | | | | |
| | [signature] | 09-13-13 | | | | | | | | | |

# ADDENDUM

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Blanks

| **Blanks** | **ICP_AES** |
|---|---|
| ND03 | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated to CRQLs. |
| | PBS57 |
| | Calcium PBS57 |
| **Blanks** | **ICP_AES** |
| ND04 | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated at CRQLs. |
| | PBS57 |
| | Calcium PBS57 |
| **Blanks** | **ICP_AES** |
| ND05 | The following samples have analyte results greater than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes. |
| | LCS57, MF2A35, MF2A35D, MF2A35L, MF2A36, MF2A38 |
| | Calcium LCS57 , MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |
| **Blanks** | **ICP_AES** |
| ND06 | The following samples have analyte results greater than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes. |
| | LCS57, MF2A35, MF2A35D, MF2A35L, MF2A36, MF2A38 |
| | Calcium LCS57 , MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |
| **Blanks** | **ICP_AES** |
| NE05 | The following samples have analyte results greater than CRQLs. The associated preparation blank analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualify detected and nondetected analytes. |
| | LCS57, MF2A35, MF2A35D, MF2A35L, MF2A36, MF2A38 |
| | Calcium LCS57 , MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Blanks

| Blanks | ICP_MS |
|---|---|
| ND03 | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated to CRQLs. |
| | MF2A35L, MF2A35, MF2A35D, MF2A36, MF2A38, PBS62 |
| | Cobalt MF2A35L |
| | Beryllium MF2A35 , MF2A35D , MF2A36 , MF2A38 |
| | Antimony MF2A35 , MF2A35D , MF2A35L , MF2A36 , PBS62 |
| **Blanks** | **ICP_MS** |
| ND04 | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated at CRQLs. |
| | MF2A35L, MF2A35, MF2A35D, MF2A36, MF2A38, PBS62 |
| | Arsenic MF2A35L |
| | Cobalt MF2A35L |
| | Beryllium MF2A35 , MF2A35D , MF2A36 , MF2A38 |
| | Antimony MF2A35 , MF2A35D , MF2A35L , MF2A36 , PBS62 |
| | Cadmium MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |
| | Silver MF2A35 , MF2A35D , MF2A36 , MF2A38 |
| **Blanks** | **ICP_MS** |
| ND05 | The following samples have analyte results greater than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes. |
| | LCS62, MF2A35, MF2A35D, MF2A35S, MF2A36, MF2A38, MF2A35A |
| | Cobalt LCS62 , MF2A35 , MF2A35D , MF2A35S , MF2A36 , MF2A38 |
| | Beryllium LCS62 , MF2A35S |
| | Antimony LCS62 , MF2A35A , MF2A35S |
| | Thallium LCS62 , MF2A35S |
| **Blanks** | **ICP_MS** |
| ND06 | The following samples have analyte results greater than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes. |
| | LCS62, MF2A35, MF2A35A, MF2A35D, MF2A35L, MF2A35S, MF2A36, MF2A38 |
| | Arsenic LCS62 , MF2A35 , MF2A35A , MF2A35D , MF2A35L , MF2A35S , MF2A36 , MF2A38 |
| | Cobalt LCS62 , MF2A35D , MF2A35L , MF2A35S , MF2A36 , MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Blanks

| Blanks | ICP_MS |
|---|---|
| | Barium LCS62 , MF2A35 , MF2A35D , MF2A35L , MF2A35S , MF2A36 , MF2A38 |
| | Beryllium LCS62 , MF2A35S |
| | Antimony LCS62 , MF2A35A , MF2A35S |
| | Thallium LCS62 , MF2A35S |
| | Cadmium LCS62 , MF2A35S |
| | Silver LCS62 , MF2A35S |
| | Lead MF2A35 , MF2A35D , MF2A35L , MF2A35S , MF2A36 , MF2A38 |
| **Blanks** | **ICP_MS** |
| NE04 | The following samples have analyte results greater than or equal to MDLs but less than or equal to CRQLs. The associated preparation blank analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated to CRQLs. |
| | MF2A35, MF2A35D, MF2A36 |
| | Antimony MF2A35 , MF2A35D , MF2A36 |
| **Blanks** | **ICP_MS** |
| NE05 | The following samples have analyte results greater than CRQLs. The associated preparation blank analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualify detected and nondetected analytes. |
| | LCS62, MF2A35A, MF2A35S |
| | Antimony LCS62 , MF2A35A , MF2A35S |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Detection Limit

| Detection Limit | Hg |
|---|---|
| NDL1 | The following samples have results greater than or equal to MDLs but less than CRQLs. Detected analytes are qualified J. |
| | MF2A36, MF2A38 |
| | Mercury MF2A36 , MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Detection Limit

| Detection Limit | ICP_AES |
|---|---|
| NDL1 | The following samples have results greater than or equal to MDLs but less than CRQLs. Detected analytes are qualified J. |
| | MF2A35L, MF2A36, PBS57, MF2A35, MF2A35D, MF2A38 |
| | Sodium MF2A35L , MF2A36 |
| | Calcium PBS57 |
| | Potassium MF2A35 , MF2A35D , MF2A35L , MF2A38 |
| | Magnesium MF2A35 , MF2A35L |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Detection Limit

| Detection Limit | ICP_MS |
|---|---|
| NDL1 | The following samples have results greater than or equal to MDLs but less than CRQLs. Detected analytes are qualified J. |
| | MF2A35, MF2A35D, MF2A35L, MF2A36, MF2A38, PBS62 |
| | Vanadium MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |
| | Arsenic MF2A35L |
| | Chromium MF2A35L |
| | Cobalt MF2A35L |
| | Nickel MF2A35L |
| | Beryllium MF2A35 , MF2A35D , MF2A36 , MF2A38 |
| | Antimony MF2A35 , MF2A35D , MF2A35L , MF2A36 , PBS62 |
| | Cadmium MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |
| | Copper MF2A35L , MF2A36 |
| | Silver MF2A35 , MF2A35D , MF2A36 , MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Duplicates

| Duplicates | Hg |
|---|---|
| NI03 | The following Duplicate and original sample results are greater than 5xCRQL and RPD is greater than 20. The original sample results are greater than or equal to MDLs. Detected analytes are qualified J. Nondetected analytes are qualified UJ. |
| | MF2A35, MF2A36, MF2A38 |
| | Mercury MF2A35D |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Duplicates

| Duplicates | ICP_AES |
|---|---|
| NI03 | The following Duplicate and original sample results are greater than 5xCRQL and RPD is greater than 20. The original sample results are greater than or equal to MDLs. Detected analytes are qualified J. Nondetected analytes are qualified UJ. |
| | MF2A35, MF2A36, MF2A38 |
| | Calcium MF2A35D |
| | Manganese MF2A35D |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Holding Times/Preservation

| Holding Times/Preservation | Hg |
|---|---|
| NHT01 | The following preserved samples are improperly maintained at temperatures outside the range of 4+/-2 C. Detected analytes with results greater than or equal to MDLs are qualified J-. Use professional judgment to qualify the nondetected analytes. |
| | MF2A35, MF2A35D, MF2A35S, MF2A36, MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Holding Times/Preservation

| Holding Times/Preservation | ICP_AES |
|---|---|
| NHT01 | The following preserved samples are improperly maintained at temperatures outside the range of 4+/-2 C. Detected analytes with results greater than or equal to MDLs are qualified J-. Use professional judgment to qualify the nondetected analytes. |
| | MF2A35, MF2A35D, MF2A35L, MF2A35S, MF2A36, MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Holding Times/Preservation

| Holding Times/Preservation | ICP_MS |
|---|---|
| NHT01 | The following preserved samples are improperly maintained at temperatures outside the range of 4+/-2 C. Detected analytes with results greater than or equal to MDLs are qualified J-. Use professional judgment to qualify the nondetected analytes. |
| | MF2A35, MF2A35A, MF2A35D, MF2A35L, MF2A35S, MF2A36, MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Matrix Spikes

| Matrix Spikes | ICP_MS |
|---|---|
| NG08 | The following Matrix Spike samples have percent recoveries less than 30% and post-digestion spike samples have percent recoveries greater than or equal to 75%. Detected analytes with results greater than or equal to MDLs are qualified J. Nondetected analytes are qualified UJ. |
| | MF2A35, MF2A36, MF2A38 |
| | Antimony MF2A35S |
| **Matrix Spikes** | **ICP_MS** |
| NG14 | The following Matrix Spike samples have percent recoveries greater than 125% and post-digestion spike samples have percent recoveries less than or equal to 125%. Detected analytes with results greater than or equal to MDLs are qualified J. Nondetected analytes are not qualified. |
| | MF2A35, MF2A36, MF2A38 |
| | Arsenic MF2A35S |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Serial Dilution

| Serial Dilution | ICP_AES |
|---|---|
| NL031 | The following ICP-AES Serial Dilution (SD) samples have percent difference (%D) greater than 10% and initial sample results are greater than 50xMDLs. The detected anlaytes in samples with results greater than or equal to MDLs are qualified J. Nondetected analytes in samples are qualified UJ. |
| | MF2A35, MF2A36, MF2A38 |
| | Magnesium MF2A35L |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Blanks

| Blanks | ICP_AES |
|---|---|
| ND03 | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated to CRQLs. |
| | PBS57 |
| | Calcium PBS57 |
| **Blanks** | **ICP_AES** |
| ND04 | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated at CRQLs. |
| | PBS57 |
| | Calcium PBS57 |
| **Blanks** | **ICP_AES** |
| ND05 | The following samples have analyte results greater than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes. |
| | LCS57, MF2A35, MF2A35D, MF2A35L, MF2A36, MF2A38 |
| | Calcium LCS57 , MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |
| **Blanks** | **ICP_AES** |
| ND06 | The following samples have analyte results greater than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes. |
| | LCS57, MF2A35, MF2A35D, MF2A35L, MF2A36, MF2A38 |
| | Calcium LCS57 , MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |
| **Blanks** | **ICP_AES** |
| NE05 | The following samples have analyte results greater than CRQLs. The associated preparation blank analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualify detected and nondetected analytes. |
| | LCS57, MF2A35, MF2A35D, MF2A35L, MF2A36, MF2A38 |
| | Calcium LCS57 , MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Blanks

| Blanks | ICP_MS |
|---|---|
| ND03 | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated to CRQLs. |
| | MF2A35L, MF2A35, MF2A35D, MF2A36, MF2A38, PBS62 |
| | Cobalt MF2A35L |
| | Beryllium MF2A35 , MF2A35D , MF2A36 , MF2A38 |
| | Antimony MF2A35 , MF2A35D , MF2A35L , MF2A36 , PBS62 |
| **Blanks** | **ICP_MS** |
| ND04 | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated at CRQLs. |
| | MF2A35L, MF2A35, MF2A35D, MF2A36, MF2A38, PBS62 |
| | Arsenic MF2A35L |
| | Cobalt MF2A35L |
| | Beryllium MF2A35 , MF2A35D , MF2A36 , MF2A38 |
| | Antimony MF2A35 , MF2A35D , MF2A35L , MF2A36 , PBS62 |
| | Cadmium MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |
| | Silver MF2A35 , MF2A35D , MF2A36 , MF2A38 |
| **Blanks** | **ICP_MS** |
| ND05 | The following samples have analyte results greater than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes. |
| | LCS62, MF2A35, MF2A35D, MF2A35S, MF2A36, MF2A38, MF2A35A |
| | Cobalt LCS62 , MF2A35 , MF2A35D , MF2A35S , MF2A36 , MF2A38 |
| | Beryllium LCS62 , MF2A35S |
| | Antimony LCS62 , MF2A35A , MF2A35S |
| | Thallium LCS62 , MF2A35S |
| **Blanks** | **ICP_MS** |
| ND06 | The following samples have analyte results greater than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes. |
| | LCS62, MF2A35, MF2A35A, MF2A35D, MF2A35L, MF2A35S, MF2A36, MF2A38 |
| | Arsenic LCS62 , MF2A35 , MF2A35A , MF2A35D , MF2A35L , MF2A35S , MF2A36 , MF2A38 |
| | Cobalt LCS62 , MF2A35D , MF2A35L , MF2A35S , MF2A36 , MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Blanks

| Blanks | ICP_MS |
|---|---|
| | Barium LCS62 , MF2A35 , MF2A35D , MF2A35L , MF2A35S , MF2A36 , MF2A38 |
| | Beryllium LCS62 , MF2A35S |
| | Antimony LCS62 , MF2A35A , MF2A35S |
| | Thallium LCS62 , MF2A35S |
| | Cadmium LCS62 , MF2A35S |
| | Silver LCS62 , MF2A35S |
| | Lead MF2A35 , MF2A35D , MF2A35L , MF2A35S , MF2A36 , MF2A38 |
| **Blanks** | **ICP_MS** |
| NE04 | The following samples have analyte results greater than or equal to MDLs but less than or equal to CRQLs. The associated preparation blank analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated to CRQLs. |
| | MF2A35, MF2A35D, MF2A36 |
| | Antimony MF2A35 , MF2A35D , MF2A36 |
| **Blanks** | **ICP_MS** |
| NE05 | The following samples have analyte results greater than CRQLs. The associated preparation blank analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualify detected and nondetected analytes. |
| | LCS62, MF2A35A, MF2A35S |
| | Antimony LCS62 , MF2A35A , MF2A35S |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Detection Limit

| Detection Limit | Hg |
|---|---|
| NDL1 | The following samples have results greater than or equal to MDLs but less than CRQLs. Detected analytes are qualified J. |
| | MF2A36, MF2A38 |
| | Mercury MF2A36 , MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Detection Limit

| Detection Limit | ICP_AES |
|---|---|
| NDL1 | The following samples have results greater than or equal to MDLs but less than CRQLs. Detected analytes are qualified J. |
| | MF2A35L, MF2A36, PBS57, MF2A35, MF2A35D, MF2A38 |
| | Sodium MF2A35L , MF2A36 |
| | Calcium PBS57 |
| | Potassium MF2A35 , MF2A35D , MF2A35L , MF2A38 |
| | Magnesium MF2A35 , MF2A35L |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Detection Limit

| Detection Limit | ICP_MS |
|---|---|
| NDL1 | The following samples have results greater than or equal to MDLs but less than CRQLs. Detected analytes are qualified J. |
| | MF2A35, MF2A35D, MF2A35L, MF2A36, MF2A38, PBS62 |
| | Vanadium MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |
| | Arsenic MF2A35L |
| | Chromium MF2A35L |
| | Cobalt MF2A35L |
| | Nickel MF2A35L |
| | Beryllium MF2A35 , MF2A35D , MF2A36 , MF2A38 |
| | Antimony MF2A35 , MF2A35D , MF2A35L , MF2A36 , PBS62 |
| | Cadmium MF2A35 , MF2A35D , MF2A35L , MF2A36 , MF2A38 |
| | Copper MF2A35L , MF2A36 |
| | Silver MF2A35 , MF2A35D , MF2A36 , MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Duplicates

| Duplicates | Hg |
|---|---|
| NI03 | The following Duplicate and original sample results are greater than 5xCRQL and RPD is greater than 20. The original sample results are greater than or equal to MDLs. Detected analytes are qualified J. Nondetected analytes are qualified UJ. |
| | MF2A35, MF2A36, MF2A38 |
| | Mercury MF2A35D |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Duplicates

| Duplicates | ICP_AES |
|---|---|
| NI03 | The following Duplicate and original sample results are greater than 5xCRQL and RPD is greater than 20. The original sample results are greater than or equal to MDLs. Detected analytes are qualified J. Nondetected analytes are qualified UJ. |
| | MF2A35, MF2A36, MF2A38 |
| | Calcium MF2A35D |
| | Manganese MF2A35D |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Holding Times/Preservation

| Holding Times/Preservation | Hg |
|---|---|
| NHT01 | The following preserved samples are improperly maintained at temperatures outside the range of 4+/-2 C. Detected analytes with results greater than or equal to MDLs are qualified J-. Use professional judgment to qualify the nondetected analytes. |
| | MF2A35, MF2A35D, MF2A35S, MF2A36, MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Holding Times/Preservation

| Holding Times/Preservation | ICP_AES |
|---|---|
| NHT01 | The following preserved samples are improperly maintained at temperatures outside the range of 4+/-2 C. Detected analytes with results greater than or equal to MDLs are qualified J-. Use professional judgment to qualify the nondetected analytes. |
| | MF2A35, MF2A35D, MF2A35L, MF2A35S, MF2A36, MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Holding Times/Preservation

| Holding Times/Preservation | ICP_MS |
|---|---|
| NHT01 | The following preserved samples are improperly maintained at temperatures outside the range of 4+/-2 C. Detected analytes with results greater than or equal to MDLs are qualified J-. Use professional judgment to qualify the nondetected analytes. |
| | MF2A35, MF2A35A, MF2A35D, MF2A35L, MF2A35S, MF2A36, MF2A38 |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Matrix Spikes

| Matrix Spikes | ICP_MS |
|---|---|
| NG08 | The following Matrix Spike samples have percent recoveries less than 30% and post-digestion spike samples have percent recoveries greater than or equal to 75%. Detected analytes with results greater than or equal to MDLs are qualified J. Nondetected analytes are qualified UJ. |
| | MF2A35, MF2A36, MF2A38 |
| | Antimony MF2A35S |
| **Matrix Spikes** | **ICP_MS** |
| NG14 | The following Matrix Spike samples have percent recoveries greater than 125% and post-digestion spike samples have percent recoveries less than or equal to 125%. Detected analytes with results greater than or equal to MDLs are qualified J. Nondetected analytes are not qualified. |
| | MF2A35, MF2A36, MF2A38 |
| | Arsenic MF2A35S |

# National Functional Guidelines Report #03

**Lab** MITKEM(Mitkem Laboratories) **SDG** MF2A35 **Case** 43795 **Contract** EPW09039 **Region** 6 **DDTID** 183659 **SOW** ISM01.3

## *Data Review Reports*

Serial Dilution

| Serial Dilution | ICP_AES |
|---|---|
| NL031 | The following ICP-AES Serial Dilution (SD) samples have percent difference (%D) greater than 10% and initial sample results are greater than 50xMDLs. The detected anlaytes in samples with results greater than or equal to MDLs are qualified J. Nondetected analytes in samples are qualified UJ. |
| | MF2A35, MF2A36, MF2A38 |
| | Magnesium MF2A35L |

| CASE | SDG | EPASAMP | LABID | MATRIX | QCCODE | ANDATE | ANTIME | CASNUM | ANALYTE | CONC | VALDQAL | UNITS | ADJCRQL | SMPDATE | PRPDATE | LRDATE | LEVEL | PERSOLD | SMPWTVL | FINVOL | METHOD | STATLOC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7429905 | Aluminum | 1320 | | mg/kg | 18.2 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440360 | Antimony | 0.89 | UJ | mg/kg | 0.89 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440382 | Arsenic | 0.84 | J | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440393 | Barium | 25.4 | | mg/kg | 4.4 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440417 | Beryllium | 0.44 | U | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440439 | Cadmium | 0.44 | U | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/30/2013 | 12:05:19 | 7440702 | Calcium | 19700 | J | mg/kg | 909 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440473 | Chromium | 1.1 | J | mg/kg | 0.89 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440484 | Cobalt | 0.47 | | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440508 | Copper | 1.0 | | mg/kg | 0.89 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7439896 | Iron | 1220 | | mg/kg | 9.1 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7439921 | Lead | 11.7 | | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7439954 | Magnesium | 449 | LJ | mg/kg | 455 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7439965 | Manganese | 30.3 | J | mg/kg | 1.4 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/03/2013 | 14:30:52 | 7439976 | Mercury | 2.3 | J | mg/kg | 0.23 | 09/10/2013 | 10/01/2013 | 09/14/2013 | Low | 88.0 | 0.5 | 100 | CV | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440020 | Nickel | 0.76 | J | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7440097 | Potassium | 354 | LJ | mg/kg | 455 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7782492 | Selenium | 2.2 | U | mg/kg | 2.2 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440224 | Silver | 0.44 | U | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 09/29/2013 | 17:45:45 | 7440235 | Sodium | 651 | | mg/kg | 455 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 88.0 | 1.25 | 100 | P | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440280 | Thallium | 0.44 | U | mg/kg | 0.44 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440622 | Vanadium | 1.6 | LJ | mg/kg | 2.2 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A35 | M1721-01A | S | Field_Sample | 10/01/2013 | 11:58:55 | 7440666 | Zinc | 79.1 | | mg/kg | 0.89 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 88.0 | 1.28 | 100 | MS | SO4-02-0.5-2.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7429905 | Aluminum | 1870 | | mg/kg | 20.8 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440360 | Antimony | 1.0 | UJ | mg/kg | 1.0 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440382 | Arsenic | 0.83 | J | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440393 | Barium | 6.3 | | mg/kg | 5.0 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440417 | Beryllium | 0.50 | U | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440439 | Cadmium | 0.50 | U | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7440702 | Calcium | 5010 | J | mg/kg | 519 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440473 | Chromium | 1.6 | J | mg/kg | 1.0 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440484 | Cobalt | 0.56 | | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440508 | Copper | 0.59 | LJ | mg/kg | 1.0 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7439896 | Iron | 1750 | | mg/kg | 10.4 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7439921 | Lead | 1.6 | | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7439954 | Magnesium | 1190 | J | mg/kg | 519 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7439965 | Manganese | 56.8 | J | mg/kg | 1.6 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/03/2013 | 13:01:21 | 7439976 | Mercury | 0.012 | LJ | mg/kg | 0.10 | 09/10/2013 | 10/01/2013 | 09/14/2013 | Low | 84.5 | 0.59 | 100 | CV | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440020 | Nickel | 1.2 | J | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7440097 | Potassium | 577 | | mg/kg | 519 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7782492 | Selenium | 2.5 | U | mg/kg | 2.5 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440224 | Silver | 0.50 | U | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 09/29/2013 | 18:00:30 | 7440235 | Sodium | 321 | LJ | mg/kg | 519 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 84.5 | 1.14 | 100 | P | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440280 | Thallium | 0.50 | U | mg/kg | 0.50 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440622 | Vanadium | 2.4 | LJ | mg/kg | 2.5 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A36 | M1721-02A | S | Field_Sample | 10/01/2013 | 12:17:59 | 7440666 | Zinc | 4.2 | | mg/kg | 1.0 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 84.5 | 1.18 | 100 | MS | SO4-02-2.0-3.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7429905 | Aluminum | 1140 | | mg/kg | 21.3 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440360 | Antimony | 0.83 | UJ | mg/kg | 0.83 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440382 | Arsenic | 0.98 | J | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440393 | Barium | 68.4 | | mg/kg | 4.2 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440417 | Beryllium | 0.42 | U | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440439 | Cadmium | 0.42 | U | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/30/2013 | 12:15:52 | 7440702 | Calcium | 146000 | J | mg/kg | 2670 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440473 | Chromium | 1.3 | J | mg/kg | 0.83 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440484 | Cobalt | 0.58 | | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440508 | Copper | 2.6 | | mg/kg | 0.83 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7439896 | Iron | 1340 | | mg/kg | 10.7 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7439921 | Lead | 6.5 | | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7439954 | Magnesium | 1210 | J | mg/kg | 533 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7439965 | Manganese | 120 | J | mg/kg | 1.6 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/03/2013 | 13:02:53 | 7439976 | Mercury | 0.074 | LJ | mg/kg | 0.10 | 09/10/2013 | 10/01/2013 | 09/14/2013 | Low | 90.1 | 0.55 | 100 | CV | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440020 | Nickel | 1.1 | J | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7440097 | Potassium | 302 | LJ | mg/kg | 533 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7782492 | Selenium | 2.1 | U | mg/kg | 2.1 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440224 | Silver | 0.42 | U | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 09/29/2013 | 18:04:12 | 7440235 | Sodium | 1010 | | mg/kg | 533 | 09/10/2013 | 09/27/2013 | 09/14/2013 | Low | 90.1 | 1.04 | 100 | P | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440280 | Thallium | 0.42 | U | mg/kg | 0.42 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440622 | Vanadium | 1.7 | LJ | mg/kg | 2.1 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |
| 43795 | MF2A35 | MF2A38 | M1721-03A | S | Field_Sample | 10/01/2013 | 12:22:49 | 7440666 | Zinc | 21.7 | | mg/kg | 0.83 | 09/10/2013 | 09/30/2013 | 09/14/2013 | Low | 90.1 | 1.33 | 100 | MS | SO4-03-0.5-2.0 |